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ESTIMATES OF DAMAGE TO CORN BY THE EUROPEAN CORN BORER IN 1941

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It is estimated that the loss from damage by the European corn borer (*Pyrausta nubilalis* (Hbn.)) in 1941 to the corn crop produced in 258 counties surveyed within 18 of the infested Northeastern States, and valued at approximately \$270,000,000, was nearly \$5,000,000. This estimate includes only the 258 counties surveyed of the 555 counties known to be infested in the United States. It was reached by the same procedure used in the preparation of similar estimates in previous years, as follows: (1) Established-damage indices of 3-, 5-, and 8-percent loss per borer per plant to corn for grain, canning sweet corn, and market sweet corn, respectively, were applied to populations of the insect found in each county surveyed in the fall of 1941 to obtain percentages of loss in the types of corn represented. (2) Values of the corn crop in each county were estimated, and the money damage caused by the borer was calculated by applying to them the estimated percentages of loss. To obtain these values, data on corn production and current market prices were procured from the 16th Agricultural Census (1940), from reports of the Agricultural Marketing Service of the United States Department of Agriculture, and from various State and city organizations which generously supplied needed information. The 1941 quotations used for corn harvested for grain were preliminary. In the case of sweet corn, an effort was made to evaluate the crop on the basis of the proportion used for market and canning purposes, in the various counties surveyed within named States, and for this reason sweet corn crop values and losses in 1941 are not directly comparable with previous estimates. (3) The county data were combined to show the money loss of corn for grain and of sweet corn for each State and for the surveyed area as a whole.

In table 1 are presented the data on the value of the corn crop and the losses caused by the European corn borer in 1941 within the counties surveyed in each and all of the 18 States. These damage estimates were prepared on the basis of 7,514,174 acres of corn harvested for grain, with an estimated crop value of \$257,805,954, and 168,846 acres of sweet corn, with an estimated crop value of \$12,405,200. The combined acreage of grain and sweet corn was 7,683,020, and the estimated crop value of both totaled \$270,211,154. The estimated total loss caused by the European corn borer to the corn crop in the area surveyed in 1941 was \$4,935,990. Of this amount, 86.3 percent, or \$4,260,248, occurred in corn harvested for grain, and 13.7 percent, or \$675,742, in sweet corn.

Losses over a large part of the infested area extending eastward from Indiana to the Atlantic coast were much lower in 1941 than in 1940, corresponding to a general decrease in abundance of the corn borer. The principal reduction in money damage by the borer to sweet corn in 1941 was due to this change in the status of the insect. Over 80 percent of the total loss caused by the borer to corn for grain in 1941 occurred in the extensive acreages surveyed in Ohio and Indiana, where the pest either continued to be abundant or increased appreciably from 1940 to 1941. As a result of this condition in the Corn Belt, the total damage to grain corn in 1941 slightly exceeded that of 1940.

Table 1.--Estimates of damage by the European corn borer to corn harvested for grain, and to sweet corn, in the 258 counties surveyed in 1941 of the 555 counties known to be infested

State	Counties	Corn harvested for grain			Sweet corn			Total
		Extent of area surveyed	Estimated value of crop	Estimated loss of crop value	Extent of area surveyed	Estimated value of crop	Estimated loss of crop value	
	Number	Acres	Dollars	Dollars	Acres	Dollars	Dollars	Dollars
Connecticut....	8	8,350	341,514	14,547	3,275	524,000	55,773	70,320
Delaware	3	134,850	2,734,162	38,365	1,973	139,376	2,967	41,332
Illinois.....	9	1,117,700	41,134,908	57,010	31,730	1,780,278	5,733	62,743
Indiana.....	62	3,091,094	110,491,542	1,211,413	27,482	1,008,103	24,842	1,236,255
Maine.....	14	4,992	185,935	122	8,645	626,454	468	590
Maryland.....	13	288,736	7,049,675	64,655	22,495	703,394	13,114	77,769
Massachusetts..	7	6,126	240,000	1,285	4,691	562,920	8,262	9,547
Michigan.....	13	393,567	12,271,376	249,937	6,603	686,712	26,012	275,949
New Hampshire..	9	3,106	135,130	214	1,222	146,640	471	685
New Jersey.....	19	123,637	3,670,065	142,468	20,450	2,887,550	395,591	538,059
New York.....	16	69,706	2,249,787	22,913	15,838	1,613,120	44,462	67,375
North Carolina.	3	50,001	958,563	3,261	392	43,904	395	3,656
Ohio.....	41	1,756,828	62,340,548	2,305,711	8,919	520,886	44,211	2,349,922
Pennsylvania...	6	230,741	8,507,643	118,346	8,352	624,164	43,822	162,168
Rhode Island...	4	1,655	43,417	1,140	759	91,080	5,919	7,059
Vermont.....	14	7,347	255,328	1,354	1,492	83,160	904	2,258
Virginia.....	9	179,250	3,845,158	21,704	737	82,544	594	22,298
Wisconsin.....	8	46,488	1,351,203	5,803	3,791	280,915	2,202	8,005
Total.....	258	7,514,174	257,805,954	4,260,248	168,846	12,405,200	675,742	4,935,990

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